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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,087	07/31/2006	Chul-Hee Lee	4900-06091729	4022

22429 7590 04/14/2009
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EXAMINER

YOUSSEF, ADEL Y

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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04/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,087	Applicant(s) LEE ET AL.	
	Examiner ADEL YOUSSEF	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/31/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the arguments filed on 04/02/2008. This action is made **FINAL**.

Response to Arguments

Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al (PGPUB-No: 2002/0044531) in view of Kawai et al. (PGPUB-No: 2003/0036361).

Examiner Notes

3. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner

Regarding claim 1, Cooper et al. teach a method of measuring transmission quality of multimedia data, comprising the steps of: (a) a transmitter transmitting multimedia data through a channel by a transmitter (paragraph 16, see figure 3); and except for (b) the receiver receiving the multimedia data from the transmitter and transmitting to the transmitter through a return channel, information on errors occurring during the multimedia data transmission (c) estimating at the transmitter the multimedia data played at the receiver using the error information received from the receiver (d) Measuring the transmission quality of the multimedia data received by the receiver by comparing the estimated received data with reference data . However, Kawai teach (b) the receiver receiving the multimedia data from the transmitter and transmitting to the transmitter through a return channel, information on errors occurring during the multimedia data transmission (paragraph 22, 29, that the data transmission error rate is smaller, the transmission throughput is larger, the distance between the mobile set and base station is shorter), (c) estimating (#105) at the transmitter the multimedia data played at the receiver using the error information received from the receiver (paragraph 106, see figure 6, that a required transmission power estimating unit 105 and a transmission permission determining unit 107) (d) Measuring(#104) the transmission quality of the multimedia data received by the receiver by comparing the estimated received data with reference data (paragraph 103, that thus-calculated transmission power value based on the media information for the information to be transmitted). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper to include receiver receiving the multimedia data from the transmitter as taught by Kawai in order to provide a receiver for receiving the broadcast applying

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signal from the broadcasting control center thereby controlling the broadcasting time of the detected multimedia Data that's developed high quality service for customer.

Regarding claim 2, Kawai et al. further teach the method according to claim 1, wherein the step (b) is performed in such a way as to transmit the error information to the transmitter through the return channel only when a transmission error of the multimedia data is detected (paragraph 22, 107, that error information to be transmitted. For example, in a case where the transmitting device 100 is mounted in the mobile station 10 shown in FIG. 1, the current transmission error rate and/or length of the waiting row are reported to the information processing apparatus 20 from the transmission permission criterion determining unit 106e)..

Regarding claim 3, Cooper et al. further teach the method according to claim 1, wherein the step (b) comprises the step of compensating errors by applying an error concealment technique to the received multimedia data (paragraphs 16 and 47).

Regarding claim 4, Kawai et al. further teach the method according to claim 3, wherein the step (b) is performed in such a way as to transmit information on the employed error concealment technique and error information to the transmitter through the return channel (paragraph 22, 29, that the data transmission error rate is smaller, the transmission throughput is larger, the distance between the mobile set and base station is shorter).

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Regarding claim 5, Kawai et al. further teach The method according to claim 1, wherein the step (c) is performed in such a way as to estimate (#105) the received data using the error information, which is returned from the receiver, and the transmitted multimedia data (paragraph 106, see figure 6, that a required transmission power estimating unit 105 and a transmission permission determining unit 107).

Regarding claim 7, Kawai et al. teach the method according to claim 1, wherein the reference data is the transmitted multimedia data (paragraph 99, multimedia information (including images, voices and characters, the transmitting device 100 as the media information together with the relevant multimedia information.)).

4. Claims 6, 8, 9, 11-19, 22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al (PGPUB-No: 2002/0044531) and Kawai et al. (PGPUB-No: 2003/0036361) in view of Saunders et al. (Patent No: 6351733).

Regarding claims 6, 8, Cooper and Kawai et al. teach The method according to claim 5, wherein: at the step (a), except for the transmitter encodes the multimedia data and transmits the encoded multimedia data through the channel; and at the step (c), the transmitted multimedia data is obtained by decoding the encoded multimedia data . However Saunders et al. (Patent No: 6351733) teach transmitter encodes the multimedia data and transmits the encoded multimedia data through the channel; and at the step (c), the transmitted multimedia data is obtained by decoding the encoded multimedia data (column 14, lines 10-25, figure 5) . Therefore, it would

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have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper and Kawai to include decoding the encoded multimedia as taught by Saunders in order to provide signal independently adjusted by the user, thereby improve more customer services.

Regarding claim 10, Cooper et al. teach the method according to claim 1, further comprising the step of, after the step (d): except for (e) selectively maintaining or changing a transmission state of the multimedia data through the channel depending on the evaluation result of transmission quality. However Kawai teach selectively maintaining or changing a transmission state of the multimedia data through the channel depending on the evaluation result of transmission quality (paragraphs 141, the quality of transmission of the burst signal by the channel state measuring unit #104). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper to include transmission quality as taught by Kawai et al in order to provide clipping due to finite precision arithmetic, thereby improve more quality services.

Regarding claim 9, Cooper and Kawai et al. teach the method according to claim 1, wherein the step (d) is performed in such a way as to estimate the transmission quality by using any one of a full-reference method, a reduced-reference method, and a no reference method (paragraphs 47, 50, see figure 4). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper and An to include full-reference method, a reduced-reference method, and a no reference as taught by Saunders in order to provide signal

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independently adjusted by the user, thereby improve more customer services.

Regarding claim 11, Cooper and Kawai et al. teach the method according to claim 10, wherein the step (e) is performed in such a way as to perform at least one of operations of terminating video transmission, increasing the channel bandwidth, except for employing an error correction technique, and switching to another CODEC robust against channel errors depending on evaluation results of transmission quality so as to change the transmission state. However Saunders et al. (Patent No: 6351733) teach an error correction technique, and switching to another CODEC robust against channel errors depending on evaluation results of transmission quality so as to change the transmission state (column 2, lines 24-30, column 18, lines 28-46, column 19, lines 11-13, 22, 26). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper to include CODEC taught by Saunders in order to transmit two types of information: radio and metadata, thereby improve more customer services.

Regarding claim 12, Kawai and Cooper teach An apparatus for measuring transmission quality of multimedia data, comprising: a transmitter transmitting multimedia data through a channel; and a receiver receiving the multimedia data, detecting errors, which occurs in the channel, from the multimedia data, and transmitting the information on detected errors to the transmitter through a return channel, wherein the transmitter comprises, an estimation unit estimating the received multimedia data played at the receiver using the returned error information, and an evaluation unit evaluating the transmission quality of the received data by comparing the

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estimated received data with reference data except for an encoding unit encoding source multimedia data to encoded multimedia data, However Saunders et al. (Patent No: 6351733) teach an encoding unit encoding source multimedia data to encoded multimedia data, (column 14, lines 10-25, figure 5) . Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Kawai and Cooper to include decoding the encoded multimedia as taught by Saunders in order to provide signal independently adjusted by the user, thereby improve more customer services.

Regarding claim 13, Cooper Further teach the apparatus according to claim 12, wherein the receiver transmits error information to the transmitter through the return channel only when an error occurs in the channel (paragraph 46-49, see figure 4).

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Regarding claim 14, Kawai Further teach the apparatus according to claim 12, wherein the receiver includes means for compensating errors by applying an error concealment technique to the received multimedia data (paragraph 10, that error rate of received information in the mobile set may increase, or instantaneously the transmission power may increase so as to compensate for this path loss).

Regarding claim 15, Kawai Further teach the according to claim 14, wherein the receiver transmits information on the error concealment technique and the error information to the transmitter (#121) through the return channel (paragraph 162, see figure 16).

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Regarding claim 16, Kawai Further teach apparatus according to claim 12, wherein the estimation unit estimates the received data using the returned error information and transmitted multimedia data (paragraph 146, see figure 13).

Regarding claim 17, Kawai and Cooper teach the apparatus according to claim 16, wherein the transmitter further comprises: except for a decoding unit decoding encoded multimedia data and outputting the transmitted multimedia data. However Saunders et al. (Patent No: 6351733) teach an encoding unit encoding source multimedia data to encoded multimedia data, (column 14, lines 10-25, figure 5). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Kawai and Cooper to include decoding the encoded multimedia as taught by Saunders in order to provide signal independently adjusted by the user, thereby improve more customer services.

Regarding claim 18, Kawai Further teach the apparatus according to claim 12, wherein the reference data is the transmitted multimedia data (paragraph 99, that multimedia information (including images, voices, characters)).

Regarding claim 19, Cooper Further teach the apparatus according to claim 12, wherein the evaluation unit estimates the transmission quality using any one of a full-reference method, a reduced-reference method, and a no reference method (paragraphs 47, 51-53)

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Regarding claim 20, cooper et al. teach The apparatus according to claim 12, wherein the transmitter further comprises: a control unit for selectively maintaining or changing a transmission state of the multimedia data through the channel depending on the evaluation result of transmission quality. However Kawai teach selectively maintaining or changing a transmission state of the multimedia data through the channel depending on the evaluation result of transmission quality (paragraphs141, the quality of transmission of the burst signal by the channel state measuring unit #104). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper to include transmission quality as taught by Kawai et al in order to provide clipping due to finite precision arithmetic, thereby improve more quality services.

Regarding claim 22, Kawai and cooper teach the apparatus according to claim 20, wherein the encoding unit performs at least one of operations of applying an error correction technique and switching to another CODEC robust against channel errors depending on evaluation results of transmission quality. However Saunders et al. (Patent No: 6351733) teach an error correction technique, and switching to another CODEC robust against channel errors depending on evaluation results of transmission quality so as to change the transmission state (column 2, lines 24-30, column 18, lines 28-46, column19, lines 11-13, 22, 26). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper to include CODEC as taught by Saunders in order to transmit two types of information: radio and metadata, thereby improve more customer services.

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Regarding Claim 23, Cooper and et al teach that a method of measuring transmission quality of multimedia data, comprising the steps of: (a) transmitting multimedia data through a channel by a transmitter (paragraph 16, see figure 3); but fail to teach (b) transmitting a set of parameters extracted from a video segment which are affected by errors occurring during multimedia data transmission to the transmitter through a return channel by a receiver receiving the multimedia data from the transmitter (paragraphs 53, 58); but fail to teach (c) measuring the transmission quality of the received multimedia data played at the receiver by using the set of parameters and reference data by the transmitter. However Kawai teach measuring (#104) the transmission quality of the received data by using the set of parameters and reference data by the transmitter (#121) (paragraph 164, figures 6,7). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Cooper to include measuring the transmission quality as taught by Kawai in order to provide quality of a multimedia duplication or transmission for display thereby improve thigh quality signal.

Regarding Claim 24, Cooper and Kawai et al. teach an apparatus for measuring transmission quality of multimedia data, comprising: a transmitter transmitting multimedia data through a channel (paragraph 16, see figure 3); and a receiver receiving the multimedia data, detecting errors (paragraphs 35, 58), which occurs in the channel, from the multimedia data, and fail to teach extracting a set of parameters from a video segment which are affected by the errors the transmitter through a return channel, wherein the transmitter comprises, an encoding unit encoding source multimedia data to encoded multimedia data, and an evaluation unit evaluating the transmission quality of the received data by using the set of parameters and reference data.

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However Saunders et al. (Patent No: 6351733) teach an encoding unit encoding source multimedia data to encoded multimedia data, and an evaluation unit evaluating the transmission quality of the received multimedia data played at the receiver by using the set of parameters and reference data(column 14, lines 10-25, figure 5). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Kawai and Cooper to include decoding the encoded multimedia as taught by Saunders in order to provide signal independently adjusted by the user, thereby improve more customer services.

5. Claim 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al (PGPUB-No: 2002/0044531) and Kawai et al. (PGPUB-No: 2003/0036361) in view of Caviedes et al. (PGPUB-No: 2002/0002709).

Regarding claim 21, Kawai further teach The apparatus according to claim 20, wherein the control unit performs except for at least one of operations of terminating video transmission and increasing the channel bandwidth, depending on evaluation results of transmission quality. However Caviedes et al. (PGUB No: 2004/0012645) teach operations of terminating video transmission and increasing the channel bandwidth, depending on evaluation results of transmission quality (paragraphs 7, 10, see figure 1, 2). Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the method of Kawai and Cooper to include transmission quality as taught by Caviedes et al in order to provide clipping due to finite precision arithmetic, thereby improve high quality services.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. xxx et al. (xxx)

Any response to this Office Action should be **faxed** to (571) 273-8300 or **mailed to:**
Commissioner for patents
P.O.Box1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window

Randolph Building

401 Dulany street

Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adel Y. Youssef whose telephone number is 571-270-3525. The examiner can normally be reached on Monday to Thursday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANDERSON MATTHEW can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ADEL YOUSSEF/

Examiner, Art Unit 2618

/Matthew D. Anderson/

Supervisory Patent Examiner, Art Unit 2618